




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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.          | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------|
| 10/736,514  | 12/17/2003  | Jens C. Rasmussen    | 826.1911                     | 6096             |
| 21171   | 7590        | 11/17/2004           | EXAMINER:<br>SMITH, ZANDRA V |                  |
| STAAS & HALSEY LLP<br>SUITE 700<br>1201 NEW YORK AVENUE, N.W.<br>WASHINGTON, DC 20005 |             |                      | ART UNIT<br>2877             | PAPER NUMBER     |

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                  |   |
|------------------------------|-------------------------------|----------------------------------|---|
| <b>Office Action Summary</b> | Application No.<br>10/736,514 | Applicant(s)<br>RASMUSSEN ET AL. |   |
|                              | Examiner<br>Zandra V. Smith   | Art Unit<br>2877                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) ✓                      | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>03/04/04</u> ✓  | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 11-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 07 September 2004.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement filed 04 March 2004 has been placed in the application file, and the information referred to therein has been considered as to the merits.

### ***Drawings***

The drawings are objected to because figures 1 and 2 should be labeled prior art. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

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Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-5, 7, 10, and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by *Chou et al. (US 6,567,167 B1)*.

As to **claims 1, 10 and 14-16**, Chou discloses a system for compensating polarization mode dispersion in fiber optic transmission systems, comprising:

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an optical unit (100) receiving an input optical signal and outputting an output optical signal;

a distortion analyzer which includes a polarimeter (110), analyzing the output optical signal and producing a feedback signal, which represents degree of polarization of the output optical signal, by using a polarization property of the polarimeter, the polarization property determined through calibration using a plurality of intensity signals output from the polarimeter; and

a controller (120) producing a control signal to adjust said optical unit, based on the feedback signal (col. 3, line 37-56).

As to **claim 2**, Chou discloses everything claimed, as applied above, in addition the polarimeter includes a plurality of optical components, the distortion analyzer produces the feedback signal and the information of the instrument matrix is obtained by inputting light with different stats of polarization into the polarimeter such that a Poincare sphere is fully covered (col. 5, line 55-col. 6, line 20).

As to **claim 3**, Chou discloses everything claimed, as applied above, in addition the information of the information matrix is obtained by plotting two of the intensity signals on a plane (col. 6, lines 10-15).

As to **claim 4**, Chou discloses everything claimed, as applied above, in addition maximum and minimum intensity of the plotted points are further determined for each of the two intensity signals and used (col. 6, lines 35-55).

As to **claim 5**, Chou discloses everything claimed, as applied above, in addition the polarimeter includes a plurality of optical components forming four analyzers to produce four

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intensity signals and the optical components are arranged as claimed (col. 5, line 55-col. 6, line 20).

As to **claim 7**, Chou discloses everything claimed, as applied above, in addition the distortion analyzer produces a feedback signal which represents a state of polarization of the optical signal (col. 3, lines 50-56) and the controller produces the control signal based on the feedback signal representing the DOP and the feedback signal representing the SOP (col. 7, lines 27-50).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chou et al.* (US 6,567,167 B1) in view of *Nishimoto et al.* (US 2002/0089724 A1).

As to **claims 8-9**, Chou discloses a feedback signal produced from the distortion analyzer but fails to disclose that the feedback signal represents a bit-error rate of the output optical signal, however to do so is well known as taught by Nishimoto. Nishimoto discloses a dispersion compensation system that includes a feedback signal represents a bit-error rate of the output optical signal, it would have been obvious to one having ordinary skill in the art at the time of invention to include feedback signals representing a bit-error rate of the output optical signal since PMD causes bit-error in optical communications systems and receiving bit-error signals and DOP signals will help control the noise in the signal.

***Allowable Subject Matter***

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious the optical components are arranged such that equivalent analyzer polarizations of the four analyzers form a structure like atoms in a diamond on a Poincaré sphere, in combination with the rest of the limitations of claim 6.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Erdogan et al. (US 6,211,957 B1)*** disclose an in-line all fiber polarimeter.

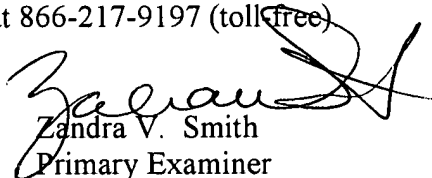
***Fax/Telephone Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (571) 272-2429. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).



Zandra V. Smith  
Primary Examiner  
Art Unit 2877

November 10, 2004